**EMERALD ROYAL INTERNATIONAL SCHOOL, MPAPE ABUJA**

**LESSON PLAN AND NOTE FOR WEEK 2 ENDING12TH MAY,2023**

**TERM: THIRD**

**WEEK : 2**

**DATE: 8TH - 12TH MAY, 2023**

**SUBJECT : CHEMISTRY**

**TOPIC : SULPHUR**

**SUB- TOPIC : 1. Physical properties of sulphur.**

1. **Chemical properties of sulphur.**
2. **Effect of heat on sulphur.**

**PERIOD: 1ST**

**TIME : 8: 10 - 8 :50**

**DURATION:**  **40 minutes**

**CLASS: SS2**

**NUMBER IN CLASS:**  **3**

**AVERAGE AGE: 14 years**

**SEX: mixed**

**LEARNING OBJECTIVES: By the end of the lesson, the students should be able to;**

1. State the physical properties of sulphur.
2. Explain the chemical properties of sulphur.
3. Describe the effect of heat on sulphur.

**RATIONALE:** The students should understand the properties of sulphur and effect of heat on sulphur.

**PREVIOUS KNOWLEGDE:** The student have been taught the allotropes of sulphur.

**INSTRUCTIONAL MATERIALS:** A chart showing the effects of heat on sulphur.

**REFERENCE MATERIALS:** New school Chemistry for Senior Secondary Schools by Osei Yaw Ababio .

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| **STAGES/STEPS** | **TEACHER’S ACTIVITIES** | **STUDENTS’ ACTIVITIES** | **LEARNING POINTS** |
| **INTRODUCTION** | The teacher introduces the lesson by reviewing the previous lesson. | The students were active during the review. | To arouse the students interest. |
| **PRESENTATION**  **STEP 1** | The teacher states the physical properties of sulphur. | The students pay attention. | To keep them focus for better understanding. |
| **STEP 2** | The teacher asks the students to state the chemical properties of sulphur. | The students state the chemical properties of sulphur. | To encourage critical thinking. |
| **STEP 3** | The teacher explains the effects of heat on sulphur. | The students pay attention. | To keep them focus for better understanding. |
| **BOARD SUMMARY** | **Physical properties of sulphur**   1. Sulphur is a yellow sulphur. 2. It exist in two forms - amorphous and crystalline. 3. It is insoluble in water but insoluble in carbon (iv) sulphide and methyl-benzene. 4. It has a melting point of 119 degree celcius and a boiling point of 444 degree celcius 5. The density depends on the allotropic form. 6. It is a bad conductor of heat and electricity.   **Chemical Properties of sulphur**   1. Burns in oxygen to form sulphur (IV) oxide(sulphur   dioxide)  S (s) + O2 (g) → SO2 (g)   1. On heating in the absence of air, sulphur combines   with metals to form the sulphide  Fe (s) + S(s) → FeS (s)  Zn(s) + S(s) → ZnS(s)   1. It reacts with hydrogen at high temperature to form   hydrogen sulphide  H2 (g) + S (I) → H2 S (g)   1. It combines with carbon at a high temperature to form the   colour less carbon (IV) sulphide.  C(s) + 2S(s) → CS2(l)   1. With oxidizing agent   When sulphur is heated with tetraoxosulphate (VI) acid, the  sulphur is oxidized to sulphur(IV) oxide while the H2SO4  is reduced to H2O .  S(s) + 2H2S04(aq) → 2H2O(l) + 3S02(g)  When sulphur is heated with trioxonitrate (V) acid, the  sulphur is oxidized to tetraoxosulphate vi acid while HNO3  is reduced to NO2 (nitrogen (IV) oxide) gas  S(s) + 6HN03 (aq) → H2S04(aq) 2H20(l) + 6NO2(g).  EFFECT OF HEAT ON SULPHUR.  **Heating sulfur at a high temperature**   * On heating element sulfur, it begins to melt at οο115οC. * At the temperature above οο200οC, the yellow colour of sulphur gets changed to red and at οο400οC, it begins to boil. * S8→∆Yellowsulfur * Before reaching the boiling point, the process of vaporization starts. * At temperatures above οο445οC, sulphur will ignite. | The students ask question for clarification. | To create room for slow learners. |
| **EVALUATION** | The teacher evaluates the students with the following questions;   1. State at least 3 physical properties of sulphur. 2. State at least 3 chemical properties of sulphur. 3. Describe what happen to sulphur when heated in high temperature. | The students attempt the questions. | To ascertain their level of understanding. |
| **CONCLUSION** | The teacher concludes by copying note on the board. | The students copy the note into their note books. | For future use. |
| **HOME WORK** | Draw the apparatus for the preparation of sulphur. | The students did their assignment and submit for marking and correction. | To encourage the students to study at home. |



10/5/2023

Principal Head Instuctor